

WHAT IS CLAIMED:

1. A smoking article having reduced ignition proclivity characteristics comprising:

5 a column comprising a smokable tobacco; and
a paper wrapper surrounding the column of the
smokable tobacco, the paper wrapper including discrete areas treated
with a film-forming composition, the treated areas being separated by
untreated areas, the treated areas having a permeability within a range
sufficient to reduce ignition proclivity (the film-forming composition
10 applied to the paper wrapper comprising a film-forming material
contained in a solution in an amount sufficient for the solution to have a
solids content of at least 6% by weight, the film-forming material having
a viscosity of less than about 500 cP when present in a 3% by weight
solution at 25°C.)

15 2. A smoking article as defined in claim 1, wherein the film-
forming material comprises an alginate.

3. A smoking article as defined in claim 2, wherein the
alginate is sodium alginate.

4. A smoking article as defined in claim 1, wherein the
20 solution has a solids content of at least 10% by weight.

5. A smoking article as defined in claim 1, wherein the film-
forming material has a viscosity of less than about 250 cP when present
in a 3% by weight solution at 25°C.

6. A smoking article as defined in claim 1, wherein the film-
25 forming material has a viscosity of less than about 100 cP when present
in a 3% by weight solution at 25°C.

7. A smoking article as defined in claim 1, wherein the treated
areas have a permeability of less than about 40 Coresta.

8. A smoking article as defined in claim 1, wherein the film-
30 forming material comprises a material selected from the group consisting

of guar gum, pectin, polyvinyl alcohol, a cellulose derivative, starch, a starch derivative, and mixtures thereof.

9. A smoking article as defined in claim 1, wherein the treated areas have a BMI of from about 1 cm^{-1} to about 5 cm^{-1} .

5 10. A smoking article as defined in claim 1, wherein the treated areas are printed onto the paper wrapper.

11. A smoking article as defined in claim 1, wherein the untreated areas of the paper wrapper have a permeability of greater than about 60 Coresta.

10 12. A smoking article as defined in claim 1, wherein the treated areas comprise a plurality of discrete circumferential bands disposed longitudinally along the smoking article.

13. A smoking article as defined in claim 12, wherein the bands are spaced from each other at a distance of from about 5 mm to about 15 50 mm, the bands having a width of greater than about 3 mm.

14. A smoking article as defined in claim 1, wherein the treated areas further comprise a citrate, the citrate being present within the bands in an amount from about 1% to about 3% by weight of the wrapper.

20 15. A paper wrapper for a smoking article that provides the smoking article with reduced ignition proclivity characteristics comprising:

a paper web designed to surround a smokable filler, the paper web including discrete areas treated with a film-forming composition, the treated areas being separated by untreated areas, the 25 treated areas having a permeability within a range sufficient to reduce ignition proclivity of a smoking article incorporating the wrapper, the film-forming composition applied to the paper wrapper comprising a film-forming material contained in a solution in an amount sufficient for the solution to have a solids content of at least 6% by weight, the film-forming material having a viscosity of less than about 500 cP when 30

present in a 3% by weight solution at 25°C.

16. A paper wrapper as defined in claim 15, wherein the film-forming material comprises an alginate.

17. A paper wrapper as defined in claim 16, wherein the
5 alginate is sodium alginate.

18. A paper wrapper as defined in claim 15, wherein the solution has a solids content of at least 10%.

19. A paper wrapper as defined in claim 15, wherein the film-forming material has a viscosity of less than about 250 cP when present
10 in a 3% by weight solution at 25°C.

20. A paper wrapper as defined in claim 15, wherein the film-forming material has a viscosity of less than about 100 cP when present in a 3% by weight solution at 25°C.

21. A paper wrapper as defined in claim 15, wherein the film-forming material comprises a material selected from the group consisting
15 of guar gum, pectin, polyvinyl alcohol, a cellulose derivative, starch, a starch derivative, and mixtures thereof.

22. A paper wrapper as defined in claim 15, wherein the treated areas are printed onto the paper wrapper.

20 23. A paper wrapper as defined in claim 15, wherein the untreated areas of the paper wrapper have a permeability of greater than about 60 Coresta.

24. A paper wrapper as defined in claim 15, wherein the treated areas comprise a plurality of discrete circumferential bands
25 disposed longitudinally along the smoking article, the bands having a width of greater than about 3 mm, the bands being spaced from each other at a distance of from about 5 mm to about 50 mm.

~~25.~~ A process for producing a paper wrapper having reduced ignition proclivity characteristics when incorporated into a smoking article
30 comprising the following steps:

providing a paper wrapper comprised of a paper web; and

applying a film-forming composition to said paper wrapper at particular locations, said film-forming composition forming
5 treated discrete areas on said wrapper, the treated areas being separated by untreated areas, the treated discrete areas having a permeability within a range sufficient to reduce ignition proclivity, the film-forming composition comprising a film-forming material contained in a solution in an amount sufficient for the solution to have a solids content
10 of at least 6% by weight, the film-forming material having a viscosity of less than about 500 cP when present in a 3% by weight solution at 25°C.

26. A process as defined in claim 25, wherein the film-forming material comprises an alginate.

27. A process as defined in claim 26, wherein the alginate is a
15 sodium alginate.

28. A process as defined in claim 25, wherein the film-forming material is present in the solution such that the solution has a solids content of at least 15% by weight.

29. A process as defined in claim 25, wherein the film-forming
20 material has a viscosity of less than about 250 cP when present in a 3% by weight solution at 25°C.

30. A process as defined in claim 25, wherein the film-forming material has a viscosity of less than about 100 cP when present in a 3% by weight solution at 25°C.

25 31. A process as defined in claim 25, wherein the treated areas have a permeability of less than about 40 Coresta.

32. A process as defined in claim 25, wherein the film-forming material is a material selected from the group consisting of guar gum, pectin, polyvinyl alcohol, a cellulose derivative, starch, a starch
30 derivative, and mixtures thereof.

33. A process as defined in claim 25, wherein the treated areas have a BMI of from about 1 cm^{-1} to about 5 cm^{-1} .

34. A process as defined in claim 25, wherein the film-forming composition is printed onto the paper wrapper.

5 35. A process as defined in claim 34, wherein the film-forming composition is printed onto the paper wrapper in a multi-pass operation.

36. A process as defined in claim 25, wherein the treated areas comprise a plurality of discrete circumferential bands disposed longitudinally along the smoking article, the bands having a width of
10 greater than 3 mm, the bands being spaced from each other from a distance of from about 4 mm to about 30 mm.

37. A process as defined in claim 25, wherein the film-forming composition is applied to the paper wrapper using gravure printing.

38. A process as defined in claim 25, wherein the film-forming
15 composition is applied to the paper wrapper in the treated discrete areas in an amount up to about 30% by weight based upon the weight of the paper wrapper.

39. A process for producing a paper wrapper having reduced ignition proclivity characteristics when incorporated into a smoking article
20 comprising the following steps:

providing a paper wrapper comprised of a paper web, the paper web containing a filler; and

printing a film-forming composition on said paper wrapper at particular locations to form treated discrete areas on the
25 wrapper, the treated discrete areas being separated by untreated areas, the treated discrete areas having a permeability within a range sufficient to reduce the ignition proclivity characteristics of a smoking article without causing the smoking article to self extinguish in a free burn state, the film-forming composition comprising an aqueous solution containing
30 an alginate, the solution containing the alginate in an amount so as to

- have a solids content of at least 8% by weight, the alginate having a viscosity of less than about 250 cP when present in a 3% by weight aqueous solution at 25°C, the treated areas forming circumferential bands along the length of the paper wrapper when incorporated into a
- 5 smoking article, the treated areas having a permeability of less than about 30 Coresta and having a BMI of less than about 5 cm⁻¹, the film-forming composition being applied to the paper wrapper in the treated areas in an amount of from about 2% to about 20% by weight based upon the weight of the wrapper.

Coresta